

DISTRIBUTED COMPUTING SYSTEM 100

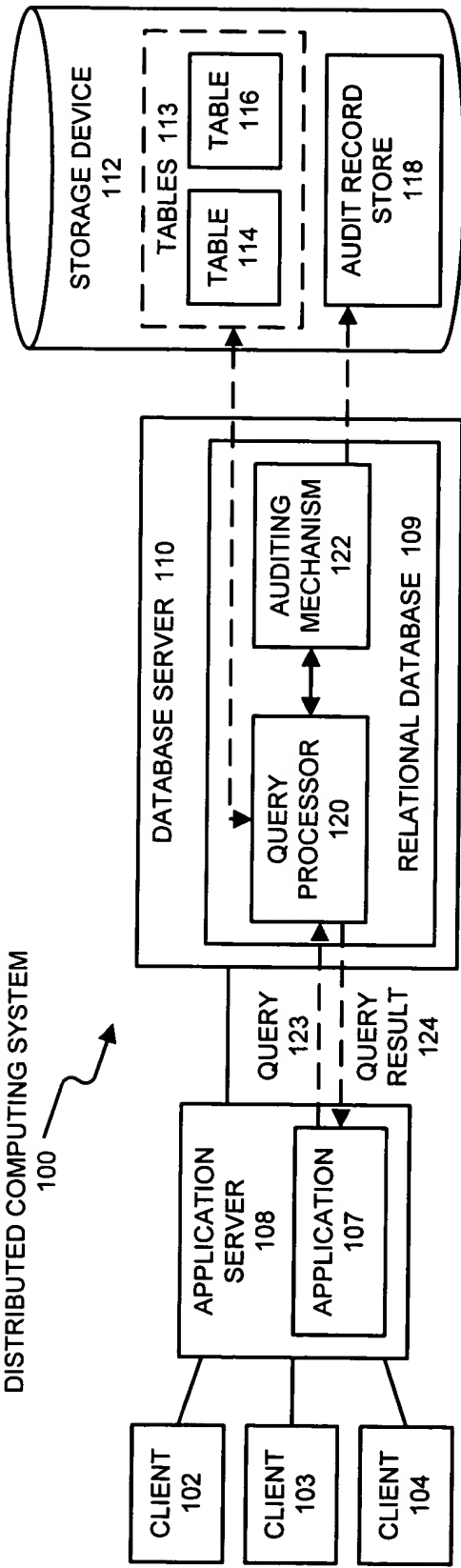


FIG. 1

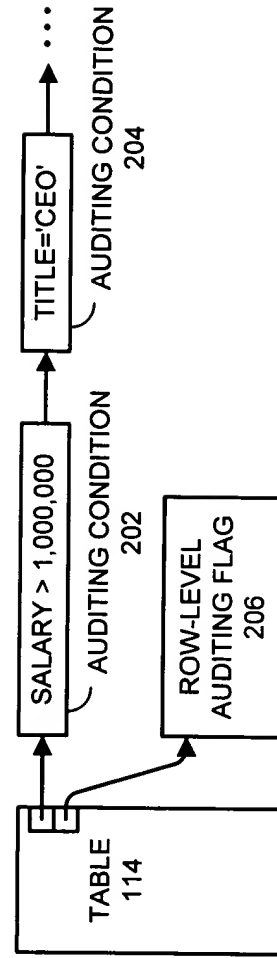


FIG. 2

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graph TD
    300([START  
300]) --> 302[RECEIVE QUERY AT A  
DATABASE SERVER FROM  
CLIENT  
302]
    302 --> 303{IS AUDITING  
ENABLED ON THE  
TABLE/VIEW?  
303}
    303 -- NO --> 305[PROCESS QUERY TO  
PRODUCE QUERY  
RESULT  
305]
    303 -- YES --> 304[MODIFY QUERY TO INSERT  
MONITORING LOGIC  
304]
    304 --> 305a[VIEW MERGING THROUGH  
OPTIMIZATION LAYER  
305]
    305a --> 306[PROCESS QUERY TO PRODUCE  
QUERY RESULT  
306]
    306 --> 310[CREATE AUDIT RECORD FOR  
ROWS THAT ARE ACCESSED BY  
THE QUERY AND THAT SATISFY  
THE AUDITING CONDITION  
310]
    310 --> 312[RECORD THE AUDIT RECORD  
TO AN AUDIT RECORD STORE  
312]
    312 --> 314[RETURN QUERY RESULT TO  
CLIENT  
314]
    305 --> 314
    314 --> 316([END  
316])
  
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FIG. 3

FIG. 3

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graph TD
    400([START 400]) --> 402[RECEIVE QUERY AT DATABASE 402]
    402 --> 404[RETRIEVE AUDITING CONDITION FOR TABLES 404]
    404 --> 406[IF QUERY INCLUDES SELECT STATEMENT, INSERT CASE STATEMENT INTO QUERY 406]
    406 --> 408[ALLOW QUERY PROCESSOR TO ALLOCATE BUFFERS FOR THE QUERY 408]
    408 --> 410[REMOVE THE CASE STATEMENT FROM QUERY 410]
    410 --> 412[ALLOW QUERY PROCESSOR TO GENERATE QUERY PLAN 412]
    412 --> 418[PROCESS QUERY TO PRODUCE QUERY RESULT 418]
    418 --> 420[CREATE AUDIT RECORD 420]
    420 --> 422[RECORD AUDIT RECORD 422]
    422 --> 424[RETURN QUERY RESULT 424]
    424 --> 426([END 426])
    404 --> 405[IF QUERY INCLUDES A DELETE, INSERT, OR UPDATE, USE SYSTEM TRIGGER TO CREATE AND RECORD AUDIT RECORD 405]
    405 --> 418
    405 --> 412
  
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FIG. 4